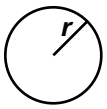
HIGH SCHOOL PROFICIENCY ASSESSMENT
MATHEMATICS REFERENCE SHEET

Use the information below, as needed, to answer questions on the Mathematics Section of the High School Proficiency Assessment.

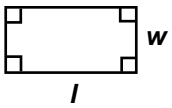
$\pi \approx 3.14$ or $\frac{22}{7}$

Circle



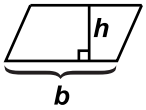
Area = πr^2
Circumference = $2\pi r$

Rectangle



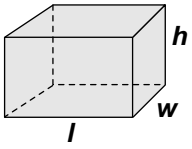
Area = lw
Perimeter = $2(l + w)$

Parallelogram



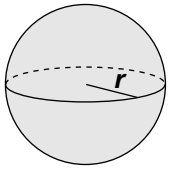
Area = bh

Rectangular Prism



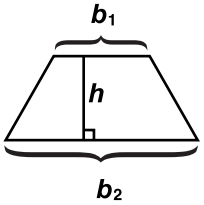
Volume = lwh
Surface Area = $2lw + 2wh + 2lh$

Sphere



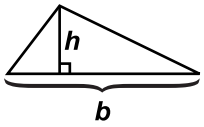
Volume = $\frac{4}{3}\pi r^3$

Trapezoid



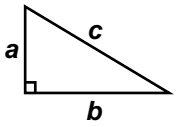
Area = $\frac{1}{2}(b_1 + b_2)h$

Triangle



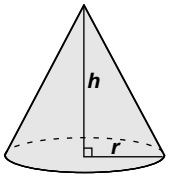
Area = $\frac{1}{2}bh$

Pythagorean Formula



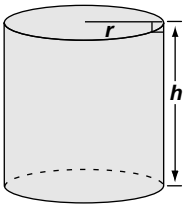
$c^2 = a^2 + b^2$

Cone



Volume = $\frac{1}{3}\pi r^2 h$

Cylinder



Volume = $\pi r^2 h$

The sum of the measures of the interior angles of a triangle = 180°

The measure of a circle is 360° or 2π radians

Distance = rate * time Interest = principal * rate * time

Compound Interest Formula: $A = p\,(1+\frac{r}{k})^{kt}$

A = amount after t years; p = principal; r = annual interest rate; t = number of years; k = number of times compounded per year

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The number of combinations of n elements taken r at a time is given by $\frac{n!}{(n-r)!r!}$

The number of permutations of n elements taken r at a time is given by $\frac{n!}{(n-r)!}$

Use the following equivalents for your calculations.

12 inches = 1 foot
3 feet = 1 yard
36 inches = 1 yard
5,280 feet = 1 mile
1,760 yards = 1 mile

100 centimeters = 1 meter
1000 meters = 1 kilometer

1000 milliliters (mL) = 1 liter (L)

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60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day
7 days = 1 week
52 weeks = 1 year

1000 watt hours = 1 kilowatt hour

1000 milligrams = 1 gram
100 centigrams = 1 gram
10 grams = 1 dekagram
1000 grams = 1 kilogram

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8 fluid ounces = 1 cup
2 cups = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon